REMARKS

Claim 1 has been amended to clarify the subject matter. Support can be found on page 30, lines 14-24, page 11, lines 25-28, and page 12, lines 24-25, for example.

Claims 20-21 have been added. Support for Claim 21 can be found on page 13, lines 1-17, for example. Support for Claim 22 can be found on page 12, lines 18-21, for example.

Claims 9-19 have been withdrawn from consideration as being directed to a non-elected invention.

No new matter has been added in the amendments. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 102

Claim 1 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Storrow et al (US3,069,375).

Claims

Claim 1 is independent and has been amended to clarify the invention. Claim 1 recites:

> An aqueous coating composition comprising, as essential components, a synthetic resin emulsion (A) having a pH value of 4.0 to 10.0 and a neutral silica sol (B) having a particle diameter of 1 to 200 nm and **a pH value of 5.0 to 7.8**, wherein the neutral silica sol (B) component is contained in an amount of 0.1 to 50 parts by weight in terms of solid content relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A)
>
> wherein the neutral silica sol (B) includes particles made of a compound which is formed by hydrolysis condensation of silicate, is rigid, and has silanol groups (Si-OH) on the surfaces of the particles.

According to the claim, because of the particle surface characteristics of the neutral silica sol as described above, the aqueous coating composition gives excellent physical properties of the coating film such as water resistance, bleed-out resistance, etc. The instant specification describes significant advantages of the neutral silica sol as compared with conventional colloidal silica:

> Colloidal silica can be mentioned as being similar to the component (B) in the present invention. Usually, the colloidal silica is divided roughly into acidic silica with pH 2 to 4 and alkaline silica with pH 9 to 11. On the surfaces of particles of either colloidal silica, Si–OH is in a dissociated state. Specifically, Si–OH is in the form of $Si–O^{-}\cdot H^{+}$ on the surfaces of particles of the acidic colloidal silica. The alkaline colloidal silica is

> classified into Na type having Si–OH in the form of $Si–O^-·Na^+$ and NH_4 type having Si–OH in the form of $Si–O^-·NH_4^+$ on the surfaces of particles thereof.
>
> On the other hand, the component (B) in the present invention, which is in such a state that a majority of Si–OH groups remain without dissociation on particle surfaces, is a compound different from the colloidal silica described above. According to the particle surface characteristics of the component (B) in the present invention, excellent performance can be exhibited in respect of physical properties of the coating film, such as water resistance, bleed-out resistance etc. *Specification* at page 13, lines 1-17.

The unexpected results due to the neutral silica sol are further demonstrated in the Examples and the Comparative Examples (Tables 1-8).

Prior Art and Finding

In Storrow, as described at column 3 lines 4-7, aqueous sols of **alkali**-stablized colloidal silica is disclosed. Although Storrow states that a pH is from about 8 to about 10 for the aqueous sols (column 3, lines 43-46), the aqueous sols of Storrow are clearly directed to alkaline silica, and in their examples, aqueous sols having pH values of 8.4, 8.5 and 9.8 are used in Table 1. Storrow shows no examples using aqueous sols having in fact a pH of 8 or less.

Additionally, the composition of Storrow is directed to wire coating in which a wire is passed through a bath of liquid coating and through a baking oven to dry and cure the coating, then repeated until the wire is provided with a coating of a desired thickness (column 1, lines 21-27).

Claim is not anticipated

The claimed pH range of 5.8 to 7.8 and Storrow's broad range of 8 to 10 do not overlap with each other, and this is not even a genus-species situation. Further, the Federal Circuit has held that the disclosure of a range does not constitute a specific disclosure of the endpoints of that range:

> Moreover, the disclosure of a range of 150 to 350 °C does not constitute a specific disclosure of the endpoints of that range, i.e., 150 °C and 350 °C, as Great Lakes asserts. The disclosure is only that of a range, not a specific temperature in that range, and **the disclosure of a range is no more a disclosure of the end points of the range than it is of each of the intermediate points**. Thus, JP 51-82206 does not disclose a specific embodiment of the claimed temperature range. *Atofina v. Great Lakes Chemical*, 441 F.3d 991, 1000, 78 USPQ2d 1417, 1424 (Fed. Cir. 2006) (emphasis added).

Thus, the endpoint of Storrow's broad range, 8, cannot anticipate the claimed range.

Further, Storrow does not disclose a silica sol containing particles made of a compound which is formed by hydrolysis condensation of silicate.

At least for the reasons above, each and every element of claim 1 cannot be found in Storrow, and thus claim 1 cannot be anticipated by Storrow.

Claim Rejections Under 35 U.S.C. § 103

Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Storrow in view of Kano (US5,891,948).

Claim 2 depend from Claim 1. As discussed above, Storrow does not disclose each and every element of Claim 1. Kano also does not disclose the neutral silica sol recited in claim 1. Thus, even if Storrow and Kano are combined, the combination cannot lead to claim 1. Further, no evidence shows that the claimed neutral silica sol would have been predicable to one of ordinary skill in the art.

Additionally, Storrow and Kano are not analogous to each other. The composition of Storrow is directed to wire coating in which a wire is passed through a bath of liquid coating and through a baking oven to dry and cure the coating, then **repeated** until the wire is provided with a coating of a desired thickness (column 1, lines 21-27). On the other hand, Kano is directed to a **one-coat and one-packing** type coating material for finishing concrete surfaces or mortar surfaces of walls and floors of a building, and board surfaces for various architectures (column 1, lines 7-11). Thus, one of ordinary skill in the art would not apply Storrow to Kano to improve the composition.

At least for the reasons above, claim 1 cannot be obvious over Storrow and Kano. Claim 2 depends from claim 1, and at least for this reason, claim 2 also cannot be obvious over Storrow and Kano. In view of the above, the other grounds for rejection are moot.

Claims 3 and 7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Storrow in view of Kano (US5,891,948), Gagliardi et al(US5,961,674) and Swarup et al(US5,506,325).

Claims 3 and 7 depend ultimately from claim 1. As discussed above, a combination of Storrow and Kano cannot lead to claim 1. Gagliardi and Swarup are not directly relevant to claim

1. Thus, at least for the reasons above, claim 1 cannot be obvious over Storrow, Kano, Gagliardi, and Swarup. Claims 3 and 7 depends ultimately from claim 1, and at least for this reason, claims 3 and 7 also cannot be obvious over Storrow, Kano, Gagliardi, and Swarup. In view of the above, the other grounds for rejection are moot.

Claims 4 and 8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Storrow in view of Swarup et al(US5,506,325).

Claims 4 and 8 depend ultimately from claim 1. As discussed above, Storrow does not disclose each and every element of claim 1. Because Swarup does not disclose a neutral silica sol, a combination of Storrow and Swarup cannot lead to claim 1. Further, no evidence shows that the claimed neutral silica sol would have been predicable to one of ordinary skill in the art. At least for the reasons above, claim 1 cannot be obvious over Storrow and Swarup. Claims 4 and 8 depend ultimately from claim 1, and at least for this reason, claims 4 and 8 also cannot be obvious over Storrow and Swarup. In view of the above, the other grounds for rejection are moot.

Claim 5 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Storrow in view of Yamada (JP02-275712A).

Claim 5 depend from Claim 1. As discussed above, Storrow does not disclose each and every element of claim 1. Because Yamada does not disclose a neutral silica sol, a combination of Storrow and Yamada cannot lead to claim 1. Further, no evidence shows that the claimed neutral silica sol would have been predicable to one of ordinary skill in the art. At least for the reasons above, claim 1 cannot be obvious over Storrow and Yamada. Claim 5 depends ultimately from claim 1, and at least for this reason, claim 5 also cannot be obvious over Storrow and Yamada. In view of the above, the other grounds for rejection are moot.

Claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Storrow in view of Kano (US5,891,948) and Yamada (JP02-275712A).

Claim 6 depends ultimately from claim 1. As discussed above, Storrow does not disclose each and every element of claim 1. Because neither Kano nor Yamada discloses a neutral silica sol, a combination of Storrow, Kano, and Yamada cannot lead to claim 1. Further, no evidence

shows that the claimed neutral silica sol would have been predicable to one of ordinary skill in the art. At least for the reasons above, claim 1 cannot be obvious over Storrow, Kano, and Yamada. Claim 6 depends ultimately from claim 1, and at least for this reason, claim 6 also cannot be obvious over Storrow, Kano, and Yamada. In view of the above, the other grounds for rejection are moot.

New Claims

Claims 20-22 have been added. Claim 21 recites further limitation of "wherein the neutral silica sol (B) does not include colloidal silica". The silica disclosed in Storrow is a colloidal silica, and thus this limitation further distinguish the claimed invention from Storrow. Claim 22 recites further limitation of "wherein the neutral silica sol (B) contains two or more kinds of neutral silica sol (B) different in average primary particle diameter". The improved results due to this recited feature are demonstrated in Table 2, Example 1-7. None of the references teaches or suggests this feature.

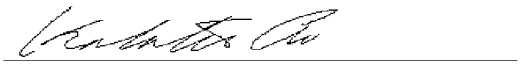
CONCLUSION

In light of the Applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: October 23, 2007 By: 

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